



CS250 Intro to CS II

Spring 2013

Object Requests

- Developers have three ways of dealing with object requests
 1. Deal directly with the request by implementing code in a method.
 2. Delegate the request to another object. This is known as delegation or composition (one object “has-a” object to perform the request)
 3. Let a superclass handle the request through the use of inheritance

Composition

- We use composition when some class already exists to handle a request made on a class being designed
- The “host” class instantiates an object of the “helper” class and sends messages when appropriate
- Helper objects are typically privately stored
- Can you come up with a real world example of composition?

Composition Advantages

- Objects can be simple in design
- More complex objects can easily be made from existing objects (code reusability)
- Objects can acquire other objects dynamically at runtime

Problem

- We have implemented the ADT Rational.
- In mathematics, we often times want to have a set of something (e.g. the set of real numbers)
- How might we create the ADT RationalSet?

Rational ADT

Step #1

- Create a project called RationalSet
- Next we need to set up the include, library, and dependency information for the project RationalSet.

Rational ADT

Step #2

- Create the interface for RationalSet

Rational ADT

Step #3

- Implement each method one at a time
- Write the driver and test each method
- Note: Do not include any headers that are not necessary in any of the files